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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/520,282	02/22/2006	Kei Sakamoto	050022	7433
23850 7590 05/28/2008 KRATZ, QUINTOS & HANSON, LLP 1420 K Street, N.W. Suite 400 WASHINGTON, DC 20005				
EXAMINER				
SOLOLA, TAOETQ A				
ART UNIT		PAPER NUMBER		
1625				
MAIL DATE		DELIVERY MODE		
05/28/2008		PAPER		

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/520,282

Applicant(s)

SAKAMOTO ET AL.

Examiner

Taofiq A. Solola

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on 11 February 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☐ Claim(s) 2-14 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☐ Claim(s) 2-14 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-946)
- 3) ☐ Information Disclosure Statement(s) (PTO/SG/US)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

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This Office action supersedes the previous communication.

Claims 2-14 are pending in this application.

Claim 1 is deleted.

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 2-14 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter, which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

The claims lack adequate support in the specification. The phraseologies "hydrocarbon group", "chiral secondary hydrocarbon group" and "chiral group" are not defined in the specification so as to ascertain the structures of the compounds that are included and/or excluded by the phrases. They are defined by examples. However, "[e]xemplification is not an explicit definition." The specification must set forth the definition explicitly and clearly, with reasonable clarity, deliberateness and precision, *Teleflex Inc. v. Ficosa North Am Corp.*, 63 USPQ2d 1374, (Fed. Cir. 2002), *Rexnord Corp. v. Laitram Corp.*, 60 USPQ2d 1854 (Fed. Cir. 2001). By replacing the phrase with the examples the rejection would be overcome.

Claim 4 lacks adequate support in the specification. The claim is drawn to resolution of optical compounds. There is no support in the specification that compounds of formula 1 are useful for resolving all known optical compounds.

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter, which the applicant regards as his invention.

Claims 2-14 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

A broad range or limitation together with a narrow range or limitation that falls within the broad range or limitation (in the same claim) is considered indefinite, since the resulting claim does not clearly set forth the metes and bounds of the patent protection desired. See MPEP § 2173.05(c). Note the explanation given by the Board of Patent Appeals and Interferences in *Ex parte Wu*, 10 USPQ2d 2031, 2033 (Bd. Pat. App. & Inter. 1989), as to where broad language is followed by "such as" and then narrow language. The Board stated that this can render a claim indefinite by raising a question or doubt as to whether the feature introduced by such language is (a) merely exemplary of the remainder of the claim, and therefore not required, or (b) a required feature of the claims. Note also, for example, the decisions of *Ex parte Steigewald*, 131 USPQ 74 (Bd. App. 1961); *Ex parte Hall*, 83 USPQ 38 (Bd. App. 1948); and *Ex parte Hasche*, 86 USPQ 481 (Bd. App. 1949). In the present instance, claims 2-3 recite the broad recitation R12 is hydrocarbon group, and the claims also recite R12 is a chiral secondary hydrocarbon group which is the narrower statement of the range/limitation.

The definition of R12 to R15 is the same, rendering claims 6, 9-14 confusing and unclear. Therefore, the claims are indefinite. The claims define R12-R15 as hydrocarbon group. In the reaction steps, one hydrocarbon group is substituted for the other. In other words the starting reagents, intermediates and the products are the same. They are omnibus claims. Appropriate correction is required.

The phraseologies "hydrocarbon group", "chiral secondary hydrocarbon group" and "chiral group" are not defined in the claims so as to ascertain the compounds that are included and/or excluded by the phrases. Therefore, it is not possible to determine the metes and bounds of claims 2-14. Hydrocarbon group in of itself embraces the entire textbook of organic chemistry. See the Examiner's suggestion above.

Claims 6, 9, 12-14 are confusing and therefore indefinite. The claims define R12-R15 as hydrocarbon group while substituting one for the other. In other words the starting reagents and the products are the same. Therefore, they are omnibus claims. Appropriate correction is required.

Response to Argument

Applicant's arguments filed 2/11/08 have been fully considered but they are not persuasive. Applicant contends the listings in the specification are examples of "hydrocarbon groups" defined by R12, "and not stated to be a definition of the scope of R12". This is exactly why the claims are indefinite because applicant is claiming hydrocarbons outside the four corners of the specification. A claim must stand alone to define the invention, and incorporation into the claims by reference to the specification or an external source is not permitted. Ex parte Fressola, 27 USPQ 2d 1608, BdPatApp & Inter. (1993). Applicant must show possession of the invention by describing it with all the claimed limitations. *Lookwood v. American Airlines Inc.* 107 F.3d 1565, 1572, 41 USPQ2d 1961, 1966 (Fed Cir. 1997). By replacing the phrase with the examples the rejection would be overcome.

Applicant also contends hydrocarbon, chiral hydrocarbon and chiral group are well known in the art. This is not persuasive because the requirement of 35 USC 112, is not what is known or obvious to one of ordinary skill in the art but a "full, clear, concise, and exact terms as

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to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same", *Lookwood v. American Airlines Inc.* 107 F.3d 1565, 1572, 41 USPQ2d 1961, 1966 (Fed Cir. 1997). See also the status above.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

((b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 2-14 are rejected under 35 U.S.C. 102(b) as being anticipated by Nemoto et al., WO 02/072505.

Nemoto et al., disclose the instant compounds and their use as optical resolver of alcohol having an asymmetric carbon atom. See the abstract and the entire document.

Claims 2-3 are rejected under 35 U.S.C. 102(b) as being anticipated by Feldman et al., Tetrahed. Lettrs. (1998), Vol 39(19), pp. 2911-2914.

Feldman et al., disclose compounds 4, 6a, 6c. See also the attached abstract.

Claims 2-3 are rejected under 35 U.S.C. 102(b) as being anticipated by Leitich et al., Eur. J. Org. Chem. (2001), Vol. 14, pp. 2707-2718.

Leitich et al., disclose compounds 5a-i.

Claims 2-3 are rejected under 35 U.S.C. 102(b) as being anticipated by Morton et al., J. Am. Chem. Soc. (1970), Vol. 92(14), pp. 4349-4257.

Morton et al., disclose compound 36, pp. 4352.

Claims 2-3 are rejected under 35 U.S.C. 102(b) as being anticipated by Daniewski et al., Bull. Polish Acad. Sc.: Chem., (1989), Vol. 37(7-8), pp. 277-281.

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Daniewski et al., disclose compounds 11.

Claims 1-4 are rejected under 35 U.S.C. 102(b) as being anticipated by Daniewski et al., Synthesis, (1987), Vol. 8, pp. 705-708.

Daniewski et al., disclose compounds 10, pp. 706.

Response to Argument

Applicant's arguments filed 2/11/08 have been fully considered but they are not persuasive. Applicant contends Bn is n-butyl. This is not correct because Bn is in fact benzyl. Applicant also contends R12 must be chiral in the claims. This is not persuasive because R12 is a chiral hydrocarbon, only when R11 is alkenyl

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 4, 7, 9-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nemeto, Tetrahed. Lettrs. (1994), Vol. 35(42), pp. 7785-7789.

Applicant claims, process of using compounds of formula 1 for resolving diastereomers or alcohols.

Determination of the scope and content of the prior art (MPEP 2141.01)

Nemeto teaches similar compounds, and method of using them for resolving diastereomers or alcohols (alcohol exchange). See compounds 5a-e, schemes 1-3 and paragraphs 1-5.

Ascertainment of the difference between the prior art and the claims (MPEP 2141.02)

The difference between the instant invention and that of Nemoto is that applicant proviso out the compounds of Nemoto et al., leaving compounds which are analogous to Nemoto's compounds.

Finding of prima facie obviousness—rational and motivation (MPEP 2142.2413)

However, the use of analogous starting material in a well-known process is prima facie obvious. *In re Durden*, 226 USPQ 359 (1985). See also *In re Farkas*, 152 USPQ 109 (1966). "Employing a different starting material in a generally old reaction is prima facie obvious. Applicant must show evidence reaction would not be expected to take place or that the new substituent would behave in a manner different from those of the reference." Therefore, the instant invention is prima facie obvious from the teaching of Nemoto. One of ordinary skill in the art would have known to use analogous compounds of the compounds of Nemoto, to resolve diastereomers or alcohols at the time the instant process was made. The motivation is from knowing that analogous compounds would have similar biological and chemical properties.

"When a patent claims a structure already known in the prior art that is altered by the mere substitution of one element for another known in the field, the combination must do more than yield a predictable result." *United States v. Adams*, 383 U.S. 49, 50-51 (1966). Cited in *KSR Int. Co. v. Teleflex Inc.*, 550 U.S. —, 82 USPQ2d 1385 (2007). The combination of familiar elements according to known methods is likely to be obvious when it does no more than yield predictable results." *KSR*, *ibid*.

Response to Argument

Applicant's arguments filed 2/11/08 have been fully considered but they are not persuasive. Applicant contends Nemeto use silica column chromatography instead of simulated moving bed chromatography. This is not persuasive because the choice of chromatography is

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an obvious modification available to the preference of an artisan. Applicant must show unexpected result in a side-by-side study. Applicant further argues that there is no suggestion in Nemeto to modify the prior art's compounds. This argument is foreclosed by the recent decision in *KSR Int. Co. v. Teleflex Inc.*, 550 U.S. —, 82 USPQ2d 1385 (2007).

Priority Claim

The instant application claims priority to foreign documents. However, certified English translation copies of the documents have not been filed.

Telephone Inquiry

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Taofiq A. Solola, PhD. JD., whose telephone number is (571) 272-0709.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Janet Andres, can be reached on (571) 272-0867. The fax phone number for this Group is (571) 273-8300.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (571) 272-1600.

/Taofiq A. Solola/

Primary Examiner, 1625

May 24, 2008